

REMARKS

The preceding amendment to Claim 1 is fully supported by the present application as originally filed. More specifically, in the working examples, FAPE 8 and FAPE 9 on page 7, lines 12-20 support the lower end of the newly claimed range of OH numbers characterizing component c1) a release agent containing ester groups, and FAPE 3 on page 6 lines 12-16 supports the upper end of the newly claimed range of OH number characterizing component c1) of the present invention. In addition, support for the initiators of the polyether polyol, i.e. component c1) (iii) of the present invention, can be found in the present specification on page 5, lines 11-13.

The remaining amendments to Claim 1 and Claim 5 serve only to place the claim language in better form. These amendments are related to matters of form.

In view of the above, Applicants respectfully submit that no new matter has been added to the presently claimed invention by these amendments.

Rejections under 35 U.S.C. 102(b)

Claims 1-5 were rejected under 35 U.S.C. 102(b) as being anticipated by DE 198 12 174 (the Tischer et al reference).

The Tischer et al reference discloses polyester polyols that are useful in the manufacture of rigid polyurethane foams. These polyester polyols are prepared by the reaction of fatty acid glycerides with active-H compounds, and optionally fatty acids, by transesterification. The active hydrogen (H) compounds are treated with lower alkylene oxides before, during and/or after reaction with the glycerides. These polyester polyols are suitable for the production of open-cellular polyurethane foams.

Applicants respectfully submit that the Tischer et al references does not anticipate the presently claimed invention.

The present invention is clearly a stable dispersion of polyols. This dispersion comprises a) a polyol component comprising a1) one or more polyether polyols with an OH number of 350 to 1830 mg KOH/g and a functionality of 2 to 8, and a2) optionally, up to 40 wt.% of one or more polyester polyols with an OH number of 250 to 500 mg KOH/g and a functionality of 2 to 3; b) optionally, one or more polyether polyols with an OH number of 15 to 250 mg KOH/g and a functionality of 2 to 6, and

c) one or more release agents. Suitable release agents are selected from the group consisting of c1) one or more release agents containing ester groups and comprising the reaction product of: (i) one or more fatty acids having 10 to 40 carbon atoms, (ii) optionally, one or more dicarboxylic acids or polycarboxylic acids, and (iii) one or more polyether polyols with ethylene oxide and/or propylene oxide units in the molecule with an OH number of 200 to 1,000 KOH/g and a functionality of 2 to 6, wherein up to 50 equivalent percent of the polyether polyol component may be replaced by other polyols free of ethylene oxide and/or propylene oxide units in the molecule; c2) optionally, one or more release agents containing amide groups, and c3) mixtures thereof.

This reference only discloses polyester polyols and the preparation of rigid polyurethane foam from these polyester polyols. Stable polyol dispersions prepared from these polyester polyols are not disclosed or suggested therein. The polyester polyols of the Tischer et al reference (DE 19812174) comprise the tranesterification product of fatty acid glycerides with active hydrogen substances. These polyester polyols may correspond to component a2) of the present invention, i.e. one or more polyesterpolyols with an OH number of 250 to 500 mg KOH/g and a functionality of 2 to 3. However, these polyesterpolyols are optional in the presently claimed invention.

Applicants' invention is clearly directed to a stable dispersion of polyol formulations which comprise a) a polyol component comprising a1) one or more polyetherpolyols having an OH number of 350 to 1830 and a functionality of 2 to 8, and c) one or more release agents selected from the group consisting of c1) one or more release agents containing ester groups and that is characterized by an OH number of about 43 to 53, c2) one or more release agents containing amide groups and c3) mixtures thereof. The release agents c1) which contain ester groups and are characterized by an OH number of 43 to 53 comprises the reaction product of (i) one or more fatty acids having 10 to 40 carbon atoms, (ii) optionally, one or more dicarboxylic acids or polycarboxylic acids, and (iii) one or more polyetherpolyols with an OH number of 200 to 1,000 and a functionality of 2 to 6, which is prepared from an initiator selected from the group consisting of 1,4-butanediol, ethylene glycol, 1,6-hexanediol, trimethylpropane, pentaerythritol, glycerol, sorbitol, bisphenol A and mixtures thereof.

Applicants respectfully submit that the Tischer et al reference simply does not disclose or describe a polyether polyol and a release agent which contains ester groups as required by the claim language. Thus, since this reference does not disclose both of the presently required components of the presently claimed stable dispersions, it can not properly anticipate the present invention.

According to the abstract, an example of a suitable polyester polyol of the Tischer et al reference was prepared by first reacting glycerol with propylene oxide in the presence of KOH as a catalyst to yield the propoxylate, and transesterifying castor oil with the propoxylate to yield a polyester polyol. The resultant polyester polyol had an OH number of 456, an acid number of 0.84 and a viscosity of 1148 mPa·s at 25°C. It is evident from the present claim language that this polyester polyol is similar only to the optional component a2) of Claim 1. This polyester polyol is clearly outside the scope of the release agents c1). It is therefore respectfully submitted that the Tischer et al reference does not describe the presently claimed invention with the specificity of an anticipatory reference.

The Tischer et al reference simply does not disclose or describe stable dispersions of polyether polyols with a release agent which contains ester groups. Nor is this clearly suggested. Accordingly, Applicants respectfully submit that this rejection is improper and respectfully request that it be withdrawn.

In addition, even if the polyester polyol component of this reference is considered "equivalent" to, or as a reasonable substitute for, the release agent which contains ester groups of the present invention, it is evident from the Rule 132 declaration submitted herewith, that the polyester polyols of the Tischer et al reference do not result in stable dispersions of a polyol formulation. Accordingly, the Tischer et al reference does not fairly describe presently claimed invention. It is therefor submitted that this rejection is improper and requested that it be withdrawn.

Claims 1-5 were rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 6,221,929 (the Ryugo et al reference).

The Ryugo et al reference discloses rigid foamed polyurethane moldings and compositions for forming rigid polyurethanes. These are described as reducing dust

scattering during cutting. These compositions comprise a polyol with a filler, a slight amount of a dehydrating agent, and from 3 to 30% of a (poly)oxyalkylene compound corresponding to the general formula:



wherein:

- A: represents an alkylene group with 2 to 4 carbon atoms,
 - X: represents a hydrocarbyl group or an acyl group,
 - m: represents a value between 1 and 100,
 - n: represents a integer of 1 to 6,
 - and
 - Z: represents a residue producing by removing the active hydrogen atoms from a compound containing n active hydrogen atoms,
- wherein at least one of Z and n X's has 5 to 20 carbon atoms.

These (poly)oxyalkylene compounds are completely esterified.

Applicants respectfully submit that the presently claimed invention is not properly anticipated by the Ryugo et al reference. The presently claimed stable dispersion clearly comprise a) a polyol component comprising a1) one or more polyether polyols with an OH number of 350 to 1830 mg KOH/g and a functionality of 2 to 8, and a2) optionally, one or more polyester polyols with an OH number of 250 to 350 mg KOH/g and a functionality of 2 to 3; b) optionally, one or more polyether polyols with an OH number of 15 to 250 mg KOH/g and a functionality of 2 to 6, and c) one or more release agents selected from c1) one or more release agents containing ester groups, c2) one or more release agents containing amide groups and c3) mixtures thereof.

Applicants respectfully submit that it is evident that the (poly)oxylakylene compounds (e) of the Ryugo et al reference are completely esterified. Compounds corresponding to c1) release agents containing ester groups as required by the presently claimed invention are only partially esterified compounds. This is evident by the fact that our release agents still contain OH functional groups and are

characterized by an OH number. This is supported by our working examples. Thus, the (poly)oxyalkylene compounds (e) which are completely esterified, of the Ryugo et al reference are different than c1) the release agents of the presently claimed invention. Accordingly, this reference does not disclose the presently claimed invention with the specificity of an anticipatory reference. It is respectfully submitted that this rejection is improper and requested that it be withdrawn.

In addition, Applicants respectfully submit that one of ordinary skill in the art has no insight into the presently claimed stable dispersions upon reading this reference. The working examples of the Ryugo et al reference that the reduced scattering moldings therein were prepared by mixing the raw materials for the OH component and those for the NCO components as in Table 1 (see column 10, line 56 through column 11, line 42. As shown in Table 1, the OH component contains polyol, a microsphere, a dehydrating agent and a (poly)oxyalkylene component, as well as a stabilizer and a catalyst. Thus, the skilled artisan would have no insight as to whether stable dispersions could be formed from a combination of the polyol (a1) therein, with the (poly)oxyalkylene compound (e) therein; or similar compounds. Applicants therefore submit that the presently claimed invention is not obvious to one of ordinary skill in the art upon reading the Ryugo et al reference.

This position is further supported by the Rule 132 Declaration submitted herewith. This declaration provides additional evidence that the presently claimed invention is neither anticipated by or obvious in view of the Ryugo et al reference.

Claims 1-5 were rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,681,915 (the Lechner et al reference).

The Lechner et al reference describes internal lubricants which are suitable for production of molded polyurethane parts. These lubricants comprise polyol derivatives which contain 3 to 6 alcoholic hydroxyl groups and at least one fatty acid residue per molecule. These are obtained by reacting (a) a starting polyol selected from the group consisting of diethanolamine, triethanolamine, diisopropanolamine, triisopropanolamine, dibutanolamine and a reaction product of (i) ethylene oxide, propylene oxide or a combination thereof, and (ii) ethanolamine, isopropanolamine, butanolamine or a primary or secondary aliphatic or aromatic amine, with (b) a

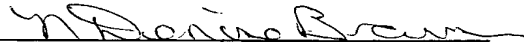
natural and/or synthetic, saturated and/or unsaturated fatty acid or fatty acid derivative.

It is respectfully submitted by Applicants that the Lechner et al reference does not properly anticipate the presently claimed invention. It is readily apparent that suitable initiators for the polyether polyol, i.e. component (iii) of c1), requires initiators that only contain OH groups. The initiators for the starting polyol which is then reacted with the fatty acid in the Lechner et al reference all contain one or more amine groups. Thus, this reference simply does not anticipate the presently claimed invention.

Furthermore, there is no suggestion to modify the Lechner et al reference in the manner necessary to "arrive at" the present invention. Accordingly, it is respectfully submitted that this rejection is improper and Applicants respectfully request that it be withdrawn.

In view of the preceding amendments and remarks, Applicants respectfully submit that each of the present rejections is improper. The Rule 132 Declaration filed herewith provided additional evidence in support of the patentability of Claims 1-5. Applicants respectfully request that these rejections be withdrawn and that Claims 1-5 be allowed.

Respectfully submitted,

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